

## PART 128—MARINE ENGINEERING: EQUIPMENT AND SYSTEMS

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SOURCE: CGD 82-004 and CGD 86-074, 62 FR 49331, Sept. 19, 1997, unless otherwise noted.

### Subpart A—General

#### § 128.110 Equipment and systems.

(a) Except as provided by this part, the design, installation, testing, and inspection of materials, machinery, pressure vessels, and piping must comply with subchapter F of this chapter.

(b) This part contains requirements for equipment and systems commonly found on an OSV. If additional or unique systems, such as for low-temperature cargoes, are to be installed, they too must comply with subchapter F of this chapter.

#### § 128.120 Plan approval.

The plans required by subchapter F of this chapter need not be submitted if the plans required by § 127.110(d) of this subchapter have been.

#### § 128.130 Vital systems.

(a) Vital systems are those systems that are vital to a vessel's survivability and safety. For the purpose of this subchapter, the following are vital systems:

- (1) Systems for fill, transfer, and service of fuel oil.
- (2) Fire-main systems.
- (3) Fixed gaseous fire-extinguishing systems.

- (4) Bilge systems.
- (5) Ballast systems.
- (6) Steering systems and steering-control systems.
- (7) Propulsion systems and their necessary auxiliaries and control systems.
- (8) Systems for transfer and control of cargo, for integral tanks or fixed independent tanks, in compliance with § 125.110 of this subchapter.

(9) Ship's service and emergency electrical-generation systems and their auxiliaries vital to the vessel's survivability and safety.

(10) Any other marine-engineering system identified by the cognizant OCMI as crucial to the survival of the vessel or to the protection of the personnel aboard.

(b) For the purpose of this subchapter, a system not identified by paragraph (a) of this section is a non-vital system.

### Subpart B—Materials and Pressure Design

#### § 128.210 Class II vital systems—materials.

Except as provided by §§ 128.230 and 128.240 of this subpart, instead of complying with part 56 of this chapter, materials used in Class II vital piping-systems may be accepted by the cognizant OCMI or the Commanding Officer, Marine Safety Center, if shown to provide a level of safety equivalent to materials in subpart 56.60 of this chapter.

#### § 128.220 Class II non-vital systems—materials and pressure design.

(a) Except as provided by §§ 128.230, 128.240, and 128.320 of this subpart, a Class II non-vital piping-system need not meet the requirements for materials and pressure design of subchapter F of this chapter.

(b) Piping for salt-water service must be of a corrosion-resistant material and, if ferrous, be hot-dip galvanized or be at least of extra-heavy schedule in wall thickness.

(c) Each Class II non-vital piping-system must be certified by the builder as suitable for its intended service. A written certificate to this effect must be submitted with the plans required by § 127.110(d) of this subchapter.

(d) The cognizant OCMI will review the particular installation of each system for the safety hazards identified in paragraphs (a), (b)(1), and (c) through (k) of § 56.50-1 of this chapter, and will add requirements as appropriate.

**§ 128.230 Penetrations of hulls and watertight bulkheads—materials and pressure design.**

(a) Each piping penetration, in each bulkhead required by this subchapter to be watertight, must meet the requirements for materials and pressure design of subchapter F of this chapter.

(b) Each overboard discharge and shell connection, up to and including required shut-off valves, must meet the requirements for materials and pressure design of subchapter F of this chapter.

**§ 128.240 Hydraulic or pneumatic power and control—materials and pressure design.**

(a) Each standard piping component (such as pipe runs, fittings, flanges, and standard valves) for hydraulic or pneumatic power and control systems must meet the requirements for materials and pressure design of § 128.110, 128.210, or 128.220 of this part, as appropriate.

(b) Any non-standard hydraulic or pneumatic component (such as control valves, check valves, relief valves, and regulators) may be accepted by the cognizant OCMI or the Commanding Officer, Marine Safety Center, if the component is certified by the manufacturer as suitable for marine service and if—

(1) The component meets each of the requirements for materials and pressure design of subparts 56.60 and 58.30 of this chapter and if its service is limited to the manufacturer's rated pressure; or

(2) The service of the component is limited to  $\frac{1}{2}$  the manufacturer's recommended maximum allowable working pressure (MAWP) or  $\frac{1}{10}$  the component's burst pressure. Burst-pressure testing is described in ANSI B 31.1, Paragraph 104.7.A, and must be conducted to comply with Paragraph A-22, Section I, ASME Boiler and Pressure Vessel Code. Written certification of results of burst-pressure testing must be submitted with the plans required by § 127.110(d) of this subchapter.

**Subpart C—Main and Auxiliary Machinery**

**§ 128.310 Fuel.**

(a) Except as provided by paragraph (b) of this section, each internal-combustion engine installed on an OSV, whether for main propulsion or for auxiliaries, must be driven by a fuel having a flashpoint of not lower than 43 °C (110 °F) as determined by ASTM D 93 (incorporated by reference, see § 125.180).

(b) The use of a fuel with a flashpoint of lower than 43 °C (110 °F) must be specifically approved by the Commandant (G-MSE), except in an engine for a gasoline-powered rescue boat.

[CGD 82-004 and CGD 86-074, 62 FR 49331, Sept. 19, 1997, as amended by USCG-2000-7790, 65 FR 58463, Sept. 29, 2000]

**§ 128.320 Exhaust systems.**

No diesel-engine exhaust system need meet the material requirements in § 58.10-5(d)(1)(i) of this chapter if the installation is certified as required by § 128.220(c) of this part.

**Subpart D—Design Requirements for Specific Systems**

**§ 128.410 Ship's service refrigeration systems.**

No self-contained unit either for air-conditioning or for refrigerated spaces for ship's stores need comply with § 58.20-5, 58.20-10, 58.20-15, 58.20-20(a), or 58.20-20(b) of this chapter if—

(a) The unit uses a fluorocarbon refrigerant allowed by part 147 of this chapter;